ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN

AB This invention describes a method for producing compd. **semiconductor quantum particles** from at least a metallic element selected from Groups IIA, IIB, IIIA, IVA, and VA of the periodic table and at least a nonoxygen reactant element selected from the group consisting of P, As, S, Se, and Te. The method includes: (a) operating a heating and **atomizing** means to provide a stream of super-heated fine-sized fluid **droplets** of a selected metallic element into a reaction chamber; (b) directing a stream of a reactant element-contg. fluid medium into the chamber to impinge upon and react with the super-heated metal fluid **droplets** to form substantially nanometer-sized **phosphide**, **arsenide**, **sulfide**, **selenide**, and/or **telluride** compd. particles; and (c) cooling and/or passivating the compd. particles to form the desired compd. **semiconductor quantum particles**. These **quantum particles** are particularly useful for photo luminescence and biol. labeling applications.

ACCESSION NUMBER: 2003:492241 CAPLUS
DOCUMENT NUMBER: 139:45241
TITLE: Method for the production of **semiconductor quantum particles**
INVENTOR(S): Huang, Wen-Chiang
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 17 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 2003116080 | A1 | 20030626 | US 2001-7562 | 20011210 |
| US 6623559 | B2 | 20030923 | | |

PRIORITY APPLN. INFO.: US 2001-7562 20011210

L11 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN

AB A method for producing compd. **semiconductor quantum particles** from at least a metallic element selected from Groups IB, IIA, IIB, IIIA, IVA, and VA of the periodic table and at least a nonoxygen reactant element selected from the group consisting of P, As, S, Se, and Te. The method includes the steps of: (a) mixing a 1st precursor compn. contg. at least a metallic element with a 2nd precursor compn. contg. at least a reactant element to form a reacting fluid in which nanometer-size compd. **semiconductor** clusters are pptd. out of a liq. medium; (b) operating an **atomizer** to a break up the reacting fluid into micron- or nanometer-size fluid **droplets** with each fluid **droplet** contg. a predetd., but small no. of nanometer-size compd. **semiconductor** clusters dispersed in the liq. medium for the purpose of constraining the growth of the clusters; (c) directing the fluid **droplets** into a material treatment stage to further sep. and/or passivate the clusters to form the desired compd. **semiconductor quantum particles**; and (d) drying and collecting the **quantum particles** in a solid powder form.

ACCESSION NUMBER: 2003:454698 CAPLUS
DOCUMENT NUMBER: 139:29309
TITLE: Manufacturing method for **semiconductor quantum particles**
INVENTOR(S): Huang, Wen-Chiang; Song, Lulu
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 2003106488 | A1 | 20030612 | US 2001-7563 | 20011210 |

PRIORITY APPLN. INFO.: US 2001-7563 20011210

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(FILE 'HOME' ENTERED AT 13:25:22 ON 05 NOV 2003)

FILE 'INSPEC, CAPLUS' ENTERED AT 13:28:43 ON 05 NOV 2003

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L1            0 S ((NANO1PARTIC2) OR (QUANTUM DOT) OR (NANO1CRYSTAL3)) AND (ATO
L2        29067 S ((NANO1PARTIC2) OR (QUANTUM DOT) OR (NANO1CRYSTAL3))
L3            0 S (ATOMIZ2)
L4       100074 S (ATOMIZ? OR DROPLET?)
L5          273 S L2 AND L4
L6       189483 S (PHOSPHIDE OR ARSENIDE ORSULFIDE OR SELENIDE OR TELLURIDE)
L7           19 S L5 AND L6
L8       737564 S (PHOSPHIDE OR ARSENIDE OR SULFIDE OR SELENIDE OR TELLURIDE)
L9          124 S L5 AND L8
L10          72 S L9 AND SEMICONDUCT?
L11           2 S L10 AND (QUANTUM PARTICLE)
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